Mission critical: the evolution of BWV

The *Journal* talks to the head of Motorola Solutions' evidence management portfolio, Stuart Boutell, about the ongoing shift towards body-worn video streaming

One of the most significant pieces of public safety communications technology to emerge in recent years has been body-worn video (BWV).

This has been particularly true in the realm of policing, for instance, where the tech has been used primarily for the gathering of evidence. Officers wear the devices, switch them on to record appropriate incidents, before bringing the equipment back to the station to upload the videographic material via a docking station.

At the same time, BWV has also proved itself beneficial as a means through which those who come into contact with the police can be encouraged to 'moderate' their behaviour. Or to put it another way, if someone knows that footage of them is likely to end up being viewed by a judge, there is more chance they will behave themselves.

Discussing how important body-worn video has become to UK policing, acting chief constable of Devon and Cornwall Police – and the NPCC lead for BWV – Jim Colwell, says the technology has become "an everyday tool for policing in this country, and one which many users would not want to be without".

BWV has been deployed in an operational context for the best part of a decade, with the above use-cases proving themselves increasingly valuable with every passing year. There is an argument to be made, however, that the tech will really come into its own once facility becomes available for the streaming of footage in real time.

A variety of things will need to be in place for this to be adopted across the board, not least a resilient, ultra-reliable – ideally emergency services-specific – broadband network. At the same time, as with any other new piece of technology, public safety organisations will have to adapt their operational processes in order to fully exploit it.

One thing which is available now, however, is the devices themselves – for instance, in the form of Motorola Solutions' newly launched V500.

Next generation

The company says that the V500 represents the next evolution of its body-worn video technology, with the addition of LTE connectivity enabling users to "leverage real-time intelligence for a more collaborative, effective response". New features include the ability for users to broadcast their location in real time, as well as, crucially, live streaming.

Providing more background on the solution, head of Motorola Solutions' evidence management portfolio, Stuart Boutell, says: "The V500 is the most recent evolution of our body camera technology. The addition of LTE connectivity is an important new capability."

He continues: "We've taken devices which, historically speaking, have had one job – to record secure evidence – and moved that on, adding additional functionality. Over several iterations, we continuously improved the devices towards the needs of our users, such as enhancing the form factor, updating hardware and enabling the body cameras to record for a full shift.

"By the time we got to the previous generation, our VB400 camera, we were focusing on adding more connectivity. That connectivity was on the body of the wearer themselves, via personal area networking with Wi-Fi.

"This began to bring the body camera workflow out of the back office and towards the wearer themselves. It enabled mobile application connectivity to the body camera, so users can do things like in-field tagging via workflow mobility apps, such as Pronto.

"The integration between the ability to tag what you've just recorded within Pronto was also a VB400 camera feature."

Moving onto the current generation, meanwhile, Boutell describes it as moving connectivity from the "personal area network" to delivering situational awareness "away from the immediate vicinity of the wearer". Or to put it another way, enabling video to be sent via the use of LTE to a control room or incident command centre.

Evolving use-case

The company's new product obviously represents a step forward when it comes to the development of its body camera technology, enabling video streaming in real time.

Asked about the likely current use-case for the V500, however, Boutell says: "While the focus will inevitably be on streaming, geolocation and asset tracking are equally important use-cases. Those are practical challenges that emergency services organisations are facing today which the V500 immediately solves.

"The streaming will eventually become much more widespread as the network improves and gets to a level of availability where it supports mission-critical functionality."

He continues: "The continuously updated GPS feed of where wearers are has multiple use-cases, including identifying which officer you're actually going to need the stream from."

While the above points are well made, it is still difficult not to be curious about how operational procedures might conceivably change once broadband coverage does improve.

Discussing this, he says: "Regarding the streaming capability itself, it delivers to a remote viewer live, recorded [footage] of what's happening in front of an officer at any given moment. That could be to someone in dispatch, or in a mobile command centre.

"That delivery can be via a number of different methods, for example, through text message, sent to a set of supervisorial users or peers. This could be the case if the officer needs a quick response to an antisocial behaviour incident, for instance."

"The streaming will eventually become much more widespread as the network improves"

As indicated, another way that the live stream might be utilised is within what Boutell calls "a CAD environment" – that is, to someone in dispatch, who will benefit from real-time information and officer location.

Streaming could also potentially be used in conjunction with fixed camera footage from around a particular location. That might include both body-worn and fixed video being shared to a control room simultaneously, again with the intention of providing improved situational awareness.

Having said all that, one thing we are unlikely to see – at least according to Boutell – is multiple team members streaming from the same scene simultaneously.

Discussing this, he says: "If you were in a public order situation and you had 20 officers deployed with streaming capability, it's unlikely you'd be able to supplement your decision-making process by watching any more than three or four of them.

"Within this type of situation, utilising LTE for geolocation could enable a commanding officer to select the most relevant streams based on proximity to the incident."

Continuing on the topic of officer streaming, Boutell once again points out that it is likely to begin with forces using the new capability in specific situations. And also, as national broadband reaches 'mission critical' standards of availability and resilience, at which point streaming will likely be utilised by an increasing number of frontline officers.

Body-worn video is an increasingly important tool across UK emergency services (as well as in other environments, such as retail). With the use-case inevitably changing in line with the technology, it will be fascinating to see where things go from here.